

CLAIMS

What is claimed is:

1. An apparatus for reproducing audio and/or video (AV) data recorded on an information storage medium in an interactive mode, comprising:

a reader to read the AV data, which comprises a markup document and a stylesheet, recorded on the information storage medium;

a memory to temporarily store the markup document and the stylesheet; and

a presentation engine comprising:

a markup document parser to interpret the markup document and to generate a document object tree,

a stylesheet parser to interpret the stylesheet and to generate a style rule/selector list,

a script code interpreter to interpret a script code contained in the markup document,

a document object model (DOM) logic unit to modify the document object tree and the style rule/selector list according to an interaction with the script code interpreter, and

a layout formatter/renderer to apply the stylesheet rule/selector list to the document object tree, to generate a formatting structure based on the application of the stylesheet rule/selector list to the document object tree, and to render the markup document based on the generated formatting structure.

2. The apparatus according to claim 1, wherein the markup document parser generates the document object tree according to a rule that a root node of all nodes is set to a document node, a rule that all texts and elements generate nodes, and a rule that a processing instruction, a comment, and a document type generate a node.

3. The apparatus according to claim 1, wherein the presentation engine further comprises a markup document step controller to generate a 'load' event to the script code interpreter where the rendering of the markup document is completed.

4. The apparatus according to claim 3, wherein the markup document step controller generates an 'unload' event to the script code interpreter to terminate presenting of the markup document.

5. The apparatus according to claim 1, further comprising:
a buffer memory to buffer the AV data;
a decoder to decode the buffered AV data; and
a blender to blend the decoded AV data and the markup document interpreted and rendered by the presentation engine, and to output the blended result.

6. The apparatus according to claim 1, wherein the presentation engine further comprises a user interface (UI) controller to receive a user input and to send the user input to the DOM logic unit and/or the layout formatter/renderer.